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AUTHOR Hunt, W. Kevin; Thomas, Wanda P.
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ABSTRACT

Data concerning first-time students at Tidewater Community College were examined to identify changing trends among certain student subgroups. Longitudinal data on first-time students, collected each fall quarter between 1973-77, were incorporated in the analyses. A series of contingency tables were developed to represent numerous demographic and socioeconomic variables and educational occupational goals. It was determined that an increase occurred in enrollment of both female and minority students and of part-time students. Results reaffirmed certain previously known information about first-time students: friends are the major influence in selecting the college; a large percentage of new students are married; and adult students are continuing to enroll primarily for the acquisition of job skills. The following variables were considered: sex, race, marital status, age, enrollment status, major goal of attendance, degree level desired, choice of college, college major, and transportation to college. Implications of the findings for college policy and planning are considered. (SW)

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Mary Corcoran
University of Minnesota
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A LONGITUDINAL STUDY OF FIRST-TIME COMMUNITY COLLEGE STUDENTS: AN EXAMINATION OF SELECTED CHARACTERISTICS

W. Kevin Hunt
Director, Institutional Research
Tidewater Community College
Portsmouth, Virginia

and

Wanda F. Thomas
Statistician
JRB Associates, Inc.
McLean, Virginia

Presented at AIR Form, 1979, San Diego, California

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A Longitudinal Study of First-Time Community College Students: An Examination of Selected Characteristics

ABSTRACT

The purpose of this study was to examine data representative of first-time students at Tidewater Community College in an effort to identify changing trends among certain subgroups of new students. Longitudinal data, collected each fall quarter between 1973-1977 from first-time students, were incorporated in the analyses. A series of contingency tables were developed to represent numerous demographic and socio-economic variables and educational occupational goals. Changes in trends among first-time enrolling students were identified, particularly across race and sex within race. The results provided information to support administrative planning on recruitment, admissions, counseling, and curriculum evaluation.

Introduction

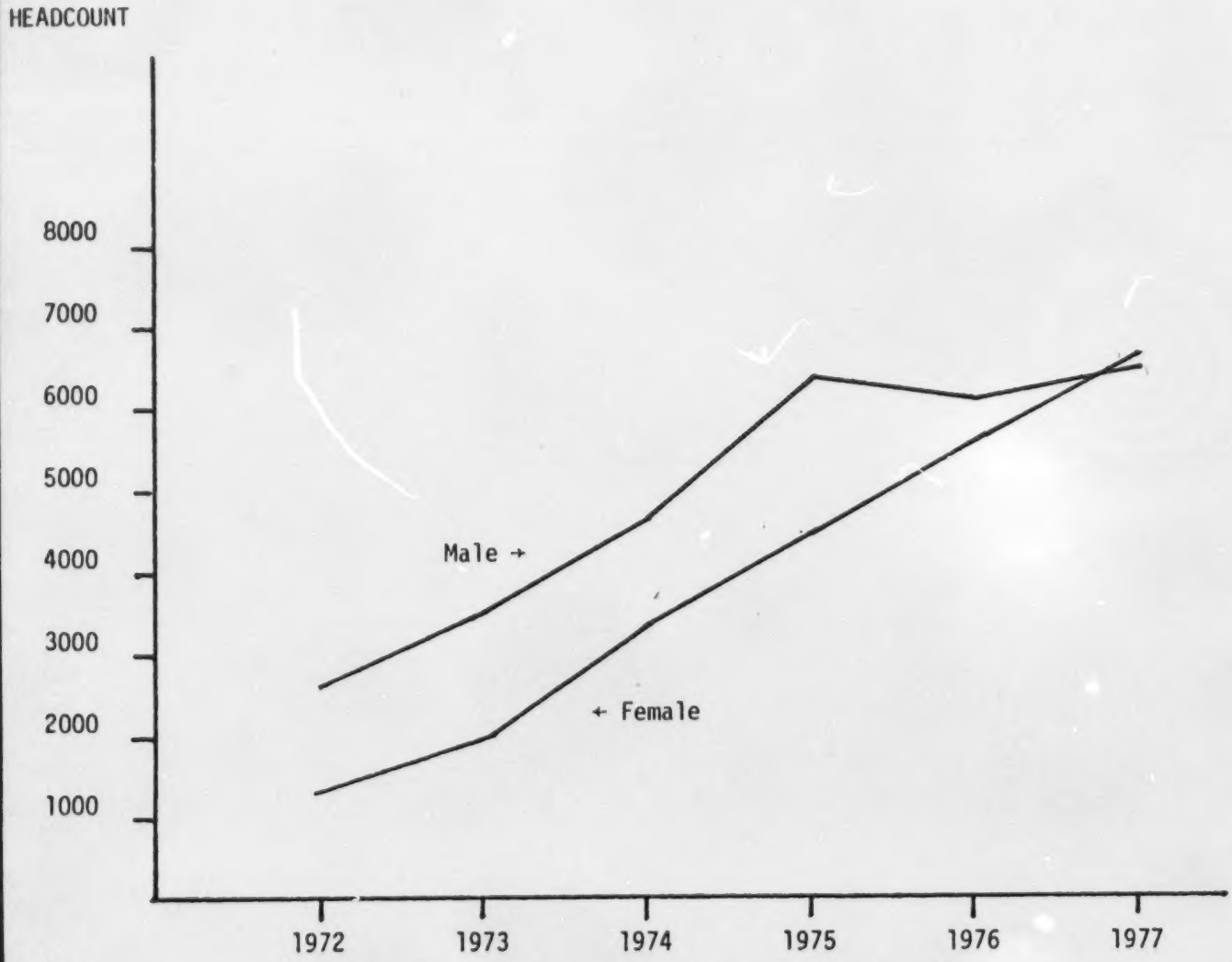
Because of their geographically oriented programming, community colleges have enrolled by far the most diverse group of students. From 1960 to 1974, the number of community colleges increased from 678 to 1,203. Paralleling rapid institutional growth, student enrollment increased from 660,216 to 3,527,340 for the same period (Litwack, 1978). The variety of programs offered by community colleges has attracted students across all categories of sex, race and ethnic status. Also, the open admissions policy of the community college has been cited as a major factor for the involvement of many non-traditional students (Cross, 1976). Particularly at the community colleges, adult students, beyond the traditional 18-24 age group, have been enrolling as a result of diverse non-traditional programming, especially in the occupational/technical areas (Myran, 1978). This shifting change in the enrollment pattern of 'new' students has created the need for responsive and creative planning and organization at the community college. The heterogeneous mixture of students, which includes women, minorities, senior citizens, and the employed seeking skill improvement, requires community colleges to provide a variety of non-traditional institutional activities and services (Hardaway, 1976).

The changing enrollment patterns at one community college are illustrated in Table 1 and Figures 1 and 2. This paper presents the findings of a longitudinal study of new students enrolling for the first-time at this community college. The purpose of this research study was to examine various demographic information collected from new students in order to identify changing enrollment patterns among certain subgroups

TABLE 1

ENROLLMENT CHARACTERISTICS

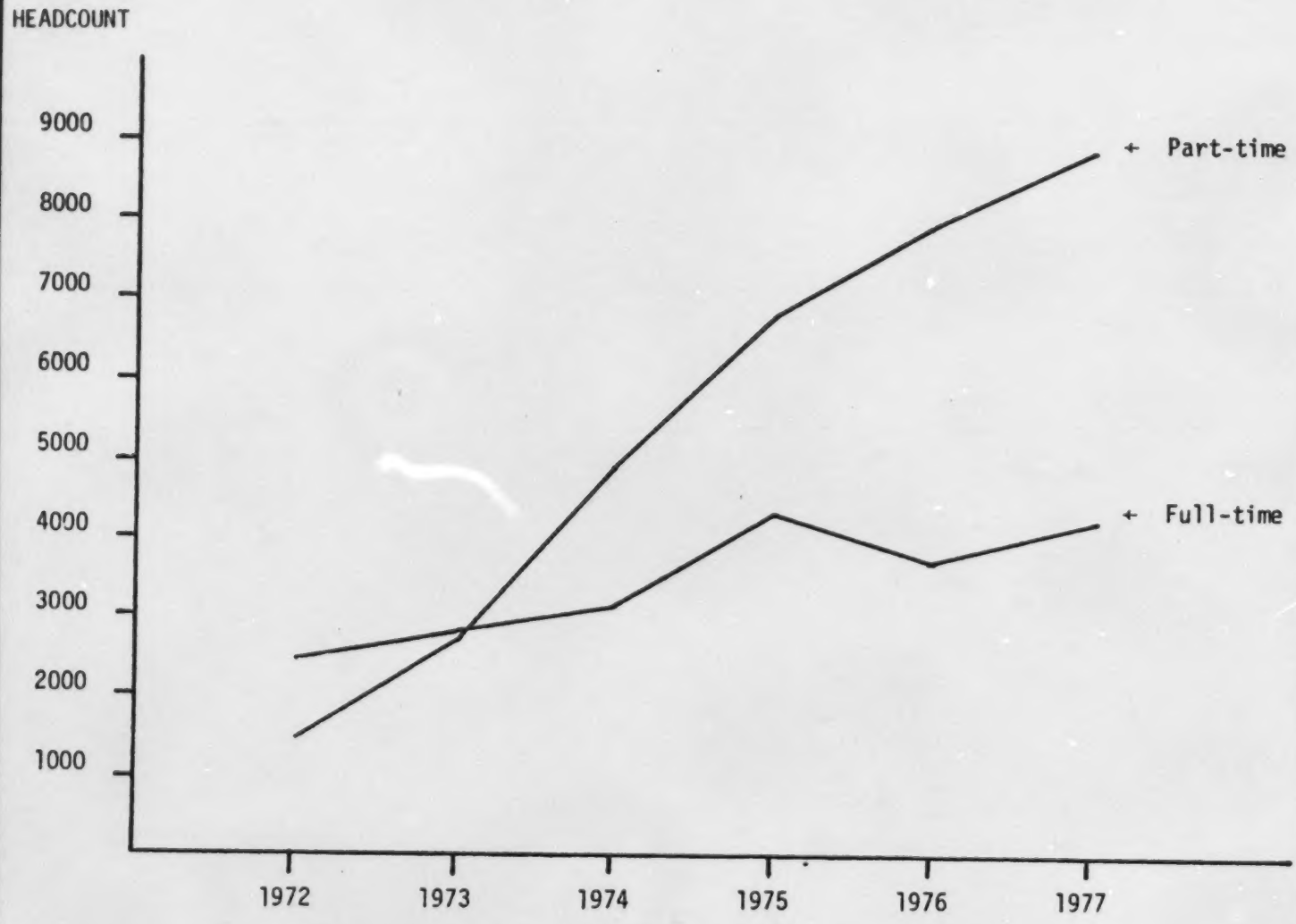
	1973	1974	1975	1976	1977
Male	3508	4613	6432	6133	6490
	(65%)	(58%)	(59%)	(53%)	(50%)
Female	1901	3382	4545	5506	6543
	(35%)	(42%)	(41%)	(47%)	(50%)
Full-Time	2756	3191	4278	3728	4202
	(51%)	(40%)	(39%)	(32%)	(32%)
Part-Time	2653	4804	6699	7911	8831
	(49%)	(60%)	(61%)	(68%)	(68%)
Total Enrollment	5409	7995	10977	11639	13033
		(+48%)	(+37%)	(+6%)	(+12%)



FALL STUDENT ENROLLMENT, BY SEX

1972 - 1977

Figure 1



FALL STUDENT ENROLLMENT BY FULL-TIME/PART-TIME STATUS

1972 - 1977

Figure 2

of new students.

Unlike the unprecedented enrollment growth that occurred during the previous years, the 1980's forecast implications of a diversified market of potential college students, adding another new dimension to the already complicated planning process for most community colleges. Combined with changes in the economy, educational values and societal influences, the student population at most community colleges will continue to be varied (Myran, 1978). The Carnegie Commission on Higher Education (1974) indicated that the community colleges would become the most populous segment of higher education as a result of the enrollment of non-traditional students. The substantial shift in the enrollment of part-time students, particularly among adults, appears to be a signal of yet greater numbers of students in the future (Smith, 1978). The projected increase in the enrollment of adult students, especially in occupational/technical programs, will have a definite effect on the composition of the community college student body. Institutions will have to identify the changing needs of these new students and either initiate innovative or modify current methods of instruction and services to satisfy these needs.

The changing patterns of student enrollments in higher education will necessitate an adaptive and responsive learning environment, such as that presently available at community colleges (Mills, 1978; Hardaway, 1976). Community colleges, based on serving the needs of the residents of their service area, must be cognizant of the changing demands of their students. Institutional awareness to shifting changes among new students is paramount. Community colleges need to identify the potential student market in their service area and modify

their programs and services so as to best suit the needs of all students (Harlacher, 1974; Tartaglia, 1977). In addition, activities offered by community colleges should be convenient and accessible to the community so as to attract and involve the largest number of potential students (Hesburgh, Miller, & Wharton, 1974). Examination of data representative of new students would assist in the identification of changing enrollment patterns and the determination of changing student needs, providing for essential and effective institutional management.

Methodology

The sample data incorporated in this study were obtained from first-time students at Tidewater Community College for each fall quarter between 1973-1977. First-time students were defined as new students who applied, were accepted and actually enrolled for credit courses during one of the fall quarters examined in the study. Individual data were collected from new students by use of a Student Data Form, a one-page questionnaire. The availability of data items varied because of modifications to the form during the five year period. The following eleven items were considered in the study: sex; race; marital status; age; enrollment status; major goal to be achieved by attending the college; degree level desired; college choice; major curriculum area; source of influence for attending; and major means of transportation. This selection was made on the basis of the importance of student input toward college programs, planning and resource allocation.

In order to analyze longitudinal student data, two-way and three-way contingency tables were constructed for each of the unique variables

selected from the Student Data Form. For each contingency table, the data were grouped by race and sex across the years examined. Contingency table analysis was performed to detect associations among the variables. This analysis examined the likelihood of obtaining the observed cell frequencies of the table by chance versus the existence of a dependency or trend between the variables. Because of the large sample sizes and the configuration of the data, the G-statistic was incorporated in the analyses of the data in each contingency table.[1] The reasons for utilizing the G-statistic in the analyses of this study were: 1) general theoretical advantages; 2) computational ease for the testing of independence for higher order contingency tables; and 3) general additivity, which allows for the partitioning of the overall G-statistic into meaningful, separate G-tests representative of individual degrees of freedom, analogous in a manner to analysis of variance. Evaluation of the derived G-statistics assisted in the determination of significant differences between subgroups of first-time students.

Results

The results of the analysis are presented in this section by variable or combination of variables selected. The changes in trends are identified and are summarized by percentage increase or decrease,

as well as additional highlights of the data.

Any reference to student refers to first-time student as defined in the discussion of the data. Any deviation from the five-year data collection period of 1973 to 1977 is noted. The variable 'Sex-Race' denotes the following categories: black male, black female, white male, white female. Any increase or decrease refers to the proportion and not the actual number of students.

Variable Analysis

Sex

Reflecting the national trend for females in higher education, there was a significant increase in the enrollment of first-time female students. While there was a 40 percent increase in female students, a 27 percent decrease was observed for first-time male students over the five-year period. In 1977, approximately 56 percent of the first-time students were females.

Race

There was a significant increase in the proportion of first-time black students. While first-time black students represented only 11.5 percent of the students in 1973, there was a 79 percent increase in the proportion of blacks over the five-year period.

Sex/Race

Examination of the trend for female students revealed a marked increase of 117 percent among black females and a 30 percent increase among white females. Black and white females accounted for 13 percent and 43.5 percent respectively of the

first-time students in 1977. Although there was a significant decrease in first-time male students, there was a 50 percent increase in first-time black males. Black males represented 7.5 percent of all first-time students in 1977

Marital Status

From 1974, there was an 18 percent increase in first-time single students. In 1977, single students represented 48.5 percent of all first-time students.

Marital Status/Sex

The observed trend of an increase in female students was observed for both single and married female students. These increases were 30 percent and 50 percent for single and married females respectively. Enrollments of single and married males were decreased by 27 percent to 33 percent with the larger decrease for single males. In 1977, white married females represented the largest group.

Age

Although the proportion of first-time students remained fairly constant for each age group over the three year period beginning in 1975, the analysis revealed marginal significance due to the fluctuation in the proportion of students in the 25-45 year age group. This group accounted for 44.8 percent, 42.6 percent, and 43.0 percent respectively for years 1975, 1976, 1977. For each of the three years in this period, the 25-46 age group represented the largest number of new students; the second

largest was the 18-21 year age group.

Age/Sex-Race

The trends observed revealed significant increases for black females in the age groups of 18-21, 22-24, and 25-45 with the most significant increase in the 25-45 age group. The trend for black males was an increase in enrollment of 22-24 year olds and a decrease for the 25-45 year old age group. Significant decreases were observed for white males in the 18-21, 22-24, and 25-45 age groups. In 1977, white females aged 25-45 represented the largest number of new students followed by the same age group for white males.

Enrollment Status

The trend in enrollment status was a shift from full-time day to part-time evening. From 1975 to 1977, there was a 16 percent increase in first-time evening enrollment status and a 22.5 percent decrease in full-time day. In 1977, first-time students with part-time evening enrollment status accounted for 52 percent of the first-time students while only 24 percent of the first-time students enrolled with full-time day status.

Enrollment Status/Sex-Race

The trend in enrollment status discussed above was most significant among white males followed by white females. Among both black males and females, the significant shift was from full-time day to full-time evenings; however, only about 3 percent of all first-time students are full-time evening and black.

Major Goal

The significant trend in major goal for attending Tidewater Community College was from the goal of transferring to a four-year program to the goal of preparing for a career field. There was a 23 percent increase of first-time students with the major goal of preparation for a career field from 1974 to 1977. In 1977, 45 percent of first-time students' major goal for attending Tidewater Community College was preparation for specific job or career field.

Major Goal/Sex-Race

The change in major goal to preparation for a career field was significant for both black and white females and black males. There was also a change in the major goal of black females to general preparation for employment. Significant changes in the major goal of white males were from transfer to four-year program and increase knowledge and education to preparation for specific job.

Degree Level

The observed trend in degree level desired was from bachelor's degree to no degree or certificate. There was a 44 percent decrease in first-time students with a desire to obtain a bachelor's degree from 1974-1975. In 1977, 27 percent of the first-time students desired to earn a bachelor's degree or study beyond four-year degree. The most common responses were bachelor's degree for white male, no degree for white female, and certificate for black male and female students.

Degree Level/Sex

The trend in degree level desired was identified in both males and females but was stronger in males. Degree level desired among first-time students fluctuated for other degree levels over the four-year period; however, no significant trends were identified.

Choice

Tidewater Community College was the first choice for the majority of applicants, ranging from 83 percent to 89 percent, of the first-time students during 1974-1975. The percent decrease from second choice was between 19 percent and 36 percent for the four-year period.

Choice/Sex

The trend in selecting Tidewater Community College as first choice instead of second choice was stronger in females than males. In 1977, 85 percent and 87 percent of first-time males and females respectively selected Tidewater Community College as their first choice.

Major

During 1973 and 1974, an average of 57 percent of the first-time students were enrolling at the college without designating a major curriculum area. The significant trend observed through 1977 has shift from no major to business. There was a 94 percent increase in the curriculum area of business which accounted for the curriculum major of 35 percent of first-time students in 1977. There were also increases in the areas of engineering/industrial technologies and health; each of these curriculum areas represented

less than 10 percent of first-time student majors in 1977. Although each area has increased in the number of students due to the overall growth of the college, the proportion of first-time students enrolled in liberal art/education decreased by 38 percent.

Major/Race

Although black and white first-time students followed the trend toward the business curriculum, the trend was stronger among black first-time students. Significant increases in the proportion of black first-time students in engineering/industrial technologies and public service were observed, however, together they represent less than 10 percent.

Source

During the four-year period beginning in 1974, friends continued to be the most frequent source for attending Tidewater Community College. Although the proportion has decreased slightly, the proportion of students attending due to their high school has increased. In 1977, the second most frequent response was publications.

Source/Sex-Race

Fewer white males are attending due to friends while more black males are attending due to that source. The proportion of white females attending due to friends has also decreased. No other significant trends were detected due to small fluctuations throughout the other categories.

Transportation

Eighty-seven to 90 percent of first-time students used their personal or family car as their major means of transportation to classes from 1974 to 1977. There was a slight trend among the students to use public transportation from riding with other students.

Transportation/Sex

The trend to use public transportation was significant among females but not among males. In 1977, approximately 8 percent of all females used public transportation or rode with other students.

Discussion

Traditionally, institutions of higher education are slow to respond to the changing needs of new students (Mills, 1978). Community colleges, because of their local orientation, are more adaptive to the changing needs of the students. Periodic examination of first-time student data will provide beneficial information essential for the planning processes of numerous administrative areas within community colleges. Major changes in the enrollment patterns of new students will effect all aspects of college operations (Parsons, 1976). Prior knowledge of potential changes in the student composition should have considerable impact on future planning for many areas within the college. Accurate determination of changing enrollment trends will be necessary for effective planning, budgeting and managing of both current and projected resources, whether it be related to curriculum development,

faculty, facilities or administrative support services.

Various changes in enrollment patterns, both those that coincided with national changes as well as those pertinent to the local service area, were determined from the analyses performed in this study of the longitudinal data representative of first-time students at this community college. In particular, the anlayses of the data did confirm a local similarity with certain national trends, such as the increase in an enrollment of both female and minority students, and an increase in part-time student enrollment. Also, the results reaffirmed certain previously known information about first-time students, such as friends are the major influence in selecting the college, that a large percentage of new students are married, and that adult students are continuing to enroll primarily for the acquisition of job skills. The recognition of the increasing interest among first-time students to attend part-time, particularly at night, should have an important influence on the areas of budgeting, staffing and facilities management at the subject college. With a changing first-time student composition, course scheduling and curriculum content will need to be examined routinely for possible modification so as to be compatible with the new students.

Analysis of new student data will help identify significant differences in trends representative of student characteristics which could impact various administrative areas within the college. Specifically, the evaluation of data on new students could provide assistance in the development and modification of curriculum programs, particularly in the content nature of courses to be offered. Also with the anticipated growth in the enrollment of non-traditional students, certain community

college student services, such as counseling, admissions, learning resources, the library and financial aid, may have to modify their programs to meet the needs of their new students. For example, counseling may have to establish specific adult counseling programs, designed to assist the older students, the returning students and the under-educated students with their unique problems. Learning resources, the library, and admissions and records may have to extend their evening or weekend hours of operation in order to provide convenient services. In addition, staffing changes may have to be considered with the advent of extended hours of operations. Double shifts of personnel for counseling, admissions, registration and learning resources may be necessary to accomodate the needs of these non-traditional students. Course shceduling and faculty assignments may also have to be altered somewhat to remain flexible so as to allow as many students, both day and night, the opportunity to enroll and to participate in college programs. Examination of data on new students can assist in improved institutional management by identifying the significant needs of the students and providing the rationale for allocating resources.

As the potential student market for community colleges stabilizes or decreases, information obtained from certain data representative of first-time students will also be beneficial in the development, refinement or modification of an institution's student recruitment plan. Knowledge concerning the effects of different methods of advertising and major influences for attendance will provide institutional data with which to determine cost-effective methods for recruiting new students. Importantly, examination of such data will reveal how certain

subgroups of new students were attracted toward an institution, particularly if the enrollment of such students is an important segment of an institution's current recruitment plan.

The analyses of the data incorporated in this study generated a large quantity of substantial information concerning the changing trends among first-time students. Incorporation of such student information in the decision-making processes within the various administrative areas will be important in the efficient operations of the subject college. Hopefully, the results of this study will provide insight for the initiation of further indepth studies concentrating on specific aspects of first-time students, as well as the entire student body.

Footnote

[1]General computer programs were developed to produce G-statistics for either two-way or three-way contingency tables. These programs were structured with the unique aspect of accepting data input in the form of cell totals from previously derived contingency tables, allowing for analyses when individual response data are not available. Copies of both computer programs are available from the authors upon request.

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